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File: DWPI

Apr 1, 1999

DERWENT-ACC-NO: 1999-244378
DERWENT-WEEK: 200238
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TITLE: Stable pumpable binder useful for self-leveling cement for plaster floor, foundation or structural part

Equivalent Abstract Text (2):

Cement: The water-binder factor is 0.1-0.5. The mixture contains 10-20, especially 15-17 wt.% water, 0.0001-0.005 wt.% Welan gum (with respect to cement); and 1.5-3.0 wt.% sodium thiosulfate and 3.5-4.5 wt.% diethylene glycol butyl ether (with respect to the binder). Production: The composition is produced by making a solid mixture of binder, e.g. cement and/or puzzuolana, aggregate, inorganic salts and biopolymer and mixing the resultant, storable dry mix with water and the shrinkage compensator.

Equivalent Abstract Text (3):

A dry mix, which could be stored in a silo for long periods without deteriorating, was prepared by mixing 250 kg Portland cement, 250 kg dry fly ash and 1500 kg sand/gravel with 2.0 wt.% sodium thiosulfate (with respect to cement) and 0.0001 wt.% Welan gum. Before use, it was mixed with 16.0 wt.% water and 4.0 wt.% diethylene glycol butyl ether with respect to the binder, giving a pumpable mixture. This remained fluid and pumpable for over 3 hours at 25 +/- 4degreesC and was free from sedimentation. It was self-leveling and gave a completely level, uniform, cohesive surface. At most 2-3 mm water accumulated on the surface in about an hour but was bound in the mixture. The strength was 25 MPa after 45 days, whilst the maximum shrinkage was less than 400 mum/m. The progress from green strength to final strength satisfies all requirements for a pumpable flooring plaster with high final strength and high quality.

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